

# Skeptics on the Internet: Teaching Students to Read Critically

*The author demonstrates creative activities to help secondary students evaluate the credibility of websites.*

I have always tried to incorporate technology in productive ways in my classroom. I have done this in part because students like to use technology, but also because I have felt that technology in the classroom reflected the world that students would enter when they left school. It has made perfect sense to me, then, to incorporate Internet research into the assignments I give my students. I know that people in the “real world” (including myself) are using the Internet more and more to find information, so I felt sure that it would benefit my students to do the same.

I soon realized, though, that students weren’t very good at using the Internet in productive ways to find information. Of most concern, students had little idea how to distinguish websites with legitimate, trustworthy information from those containing spurious, questionable information. I worried that students who could not read critically to determine the validity of information they found online were bound to be frustrated or—even worse—harmed by their trust in the misleading information they would encounter. I could have limited students to a preselected list of websites or authorized them to only use selective search engines such as Google Scholar—and I did occasionally impose these kinds of limits on Internet research in the classroom. But I also felt that students needed to know how to evaluate what they encountered in the results of more natural searches using search engines such as Google, Ask.com, or Yahoo.

When I set out to find strategies I could use to help students, I gained some insight into the nature of the problem we faced. I had assumed that

my good print readers would be naturally good at reading online, that those skills they used to make sense of print texts would be what they needed for Internet texts. However, Julie Coiro and Elizabeth Dobler have shown that specific features of Internet texts (such as the presence of hyperlinks and embedded multimedia) place unique demands on readers (240–43). The feature of Internet texts that concerned me in this case was the lowered barrier to publication for Internet authors. With traditional print texts, editorial safeguards are often in place that help ensure the validity of information presented in them. No such safeguards exist for much of what is published online, thus heightening the need for critical reading skills (Leu et al.).

I found a number of suggestions that would help students develop these skills. Two Web resources that I found invaluable—Walt Howe’s “Evaluating Quality” and Robert Harris’s “Evaluating Internet Research Sources”—recommend that when reading to evaluate, students should look for information about the author and judge whether he or she is an authority on the subject in question. Given that advertising has become pervasive on the Internet, Coiro suggests that students also look carefully for commercial (or other) motives in materials they encounter online (29). Furthermore, Donald Leu et al. argue that we should encourage students to look at how an author constructs the message to help reveal biases that might influence the validity of information. Students should also seek to corroborate information they find online across multiple sources (47–48).

To help students develop skills to evaluate what they read online, I incorporated these ideas

into a unit in which we explored challenges that teenagers face. In this unit, we read and discussed and wrote in response to short stories, memoirs, and poetry about teens and their challenges. After this focused exploration, I asked students to conduct research on a specific challenge faced by teenagers. Since I wanted them to rely primarily on the Internet as a source for information on this challenge, we began the research phase of the unit with a discussion about the nature of information on the Internet. My students almost immediately brought up the dangers of trusting everything you read online and the potential for problems in a medium where almost anyone can publish a blog or Web page. However, when I showed them the “Help Save the Pacific Northwest Tree Octopus from Extinction” site (<http://zapatopi.net/treeoctopus.html>) and asked them to tell me if this site presented trustworthy information, most of them agreed that it did. (This site describes in detail a rare, endangered—and entirely fictional—species of octopus that dwells in the trees of the Pacific Northwest.) The students were surprised when I informed them that no such animal as a tree octopus exists and that they had fallen for an Internet hoax.

### Critically Reading the Internet: Three Strategies

This experience provided a good introduction to three strategies for critically evaluating information on the Internet: examining initial markers (superficial characteristics of a website that can help us make an initial judgment), corroborating information (looking to other trusted sources to verify information), and determining author bias (analyzing the author’s intent for a specific agenda). I describe here how I modeled each strategy for students, using an Internet-connected computer in my classroom attached to an LCD projector, and how I then invited students to work with me as we practiced the strategies together.

#### Initial Markers

The “Tree Octopus” site, despite being bogus, allowed us to begin a discussion of what I refer to as “initial markers” of credibility: features of websites that we might examine to make an initial judgment about the site’s credibility. Many students

were convinced of the site’s validity because of the numerous images (including a doctored image that shows an octopus residing in the branches of pine trees), the large amount of text (which included scientific-sounding names), the professional-looking layout of the site, and numerous links to other sites about octopuses and endangered species (many of which lead to legitimate sites). After explaining to students that none of these markers were guaranteed indicators of the validity of information on a site, we talked about markers or features of a Web page that would give a website credibility.

First, as Howe and Harris suggest, I asked students to look for information about the author or sponsoring organization of a website. Sites that prominently display contact information can be more credible than those that do not; if we can identify an author, we can learn through further research about any credentials the author might have. Identifying the author of a site may also help us in determining possible biases of that author or the author’s motives for publishing this information online. Another initial marker that we

can look for is the timeliness of the site. I asked students to look for a note on the Web page about when it was last updated (this will often appear near the top or bottom of a Web page). A site that is rarely updated or posts no information about when it was last updated might be less trustworthy. More importantly, if we’re looking for relevant and timely information online, sites that haven’t been updated in a long time might not be appropriate for our needs or may not even be correct anymore given new information that has come to light since the site’s publication.

While the presence of links to other sites does not necessarily guarantee a site’s credibility, a site is more credible if the authors provide links to source material for the information on the site (as opposed to links to other sites of interest). I encouraged students in their research to follow links they found in their reading and to examine the content on those connected sites. Examining these links can help us

**With traditional print texts, editorial safeguards are often in place that help ensure the validity of information presented in them. No such safeguards exist for much of what is published online.**

**Many sites can look professional and polished, contain a lot of information, and link to legitimate sites but still contain information that is questionable.**

judge the sources used by an author; the lack of such links can be a reason to investigate further a site's credibility. For advanced students, I suggested that they use a Google search to see what other sites link to the site in question; this is done by entering "link:" into a Google search box followed by the complete Web address of the site in question. When we conducted a search for other sites that linked to the "Tree Octopus" site, for example, we found numerous links from personal blogs but no other scientific-looking sites that discussed the endangered animal. These results caused us to think twice about accepting the information on the "Tree Octopus" site.

Finally, I suggested that students look at the overall layout and at any additional content on a website. The predominance of advertisements on a site could be a clue that the site's author might be more interested in commercial gain than in distributing accurate information. A site with numerous grammatical errors or an amateurish appearance could also be suspect; an author who takes the time to polish a site and closely proofread the information presented could be more credible. In addition, some types of websites, such as personal blogs or message boards, are physically formatted in a recognizable way. I encouraged students to be careful with information they found in sites such as these since they tend to be forums for personal opinion or conjecture, rather than sources of factual information.

Looking at initial markers can sometimes help us reject a site outright, but more often it alerts us to possible concerns about the legitimacy of information contained in a site. Many sites can look professional and polished, contain a lot of information, and link to legitimate sites (or even do a careful job of documenting sources) but still contain information that is questionable. Looking at initial markers is a start, but we often need additional strategies to evaluate what we read.

### Corroboration

The next strategy I showed my students became one of the most important strategies we discussed: corroborating information we find with other

trusted sources. When I presented the concept of corroboration, I first talked about using common sense. If something we encounter on the Internet sounds too good or too odd to be true, then it most likely is; or, if information we encounter online does not seem to match what we already know, it is likely suspect. Sometimes all we have to do is pause and think a bit about what we're reading—too often the students would simply accept as truth anything they saw on a Web page without taking a minute to consider what they were reading.

However, sometimes our knowledge or common sense is not strong enough to make a judgment; in these cases, the ease of access to information provided by the Internet is a wonderful tool. For instance, a Google search for the keywords "tree octopus" allowed students to find other sites that exposed the truth about the fictitious animal. Many sites in the search results we found were teacher sites that discussed how to use the "Tree Octopus" site to teach students about bogus information online—a real clue to us that the site's validity was questionable. Another link in the search results led to Wikipedia, where we read that the tree octopus is a hoax. In fact, students have informed me that they often prefer to visit Wikipedia before going anywhere else online because it's easy to do so and they trust the site. Given Wikipedia's controversial history in academic circles, as teachers we should also encourage students to corroborate what they find there with more trusted encyclopedic sites such as Encarta (<http://encarta.msn.com>) or Encyclopedia Britannica Online (<http://www.britannica.com>).

The biggest challenge with having students corroborate information they find is that doing so is more work than some of them are initially willing to do. As fast as Internet searches may seem for those of us raised on the red-covered *Readers' Guide to Periodical Literature*, many students feel it takes too long to conduct additional searches to corroborate what they've read. However, a few demonstrations showed students that in reality it doesn't take long to find corroborating information. I also found that requiring students to write a simple defense of any website they used in their research encouraged them to take the effort to corroborate information. As with so many things in teaching, setting high expectations for students and holding them accountable to those is important to their success.

## Detecting Author Bias/Agenda

Along with helping students see the value of corroborating information, I also wanted them to recognize the importance of considering the author behind the information. People publish on the Internet for many reasons, and not all of these are noble or altruistic. Recognizing authors who might have bias or a hidden agenda can be particularly challenging for students, so I adapted ideas from Howe's and Harris's sites to form a series of questions the students could ask themselves about a site and its author:

- Who is the author? What do you learn from a Google search on him or her (or the organization that sponsors the site)?
- What do you think is the author's purpose in publishing this information? Does the purpose seem legitimate or trustworthy?
- Is the author (or the website) trying to sell something? Is there a product attached to the information or commentary on the site?
- Examine use of language in the website. Are any of the words used particularly hateful or provocative? Does the author (through his or her words) seem to be trying to incite you to a strong emotional reaction?
- Does the content of the site seem to be largely opinion, or do you see a fair amount of facts that you can corroborate?

To practice using these questions, I walked students through carefully selected pages of "Martin Luther King, Jr.—A True Historical Examination" (<http://martinlutherking.org>). (This site, while it purports to be an objective presentation of information about Martin Luther King Jr., is actually a highly biased, hate-filled diatribe against the civil rights leader. I carefully selected pages from this site because not all of the content is appropriate for younger students.) First, we looked together at some initial markers of the site. We noticed that the site sports a clean-looking layout with professional-looking titles and images. When we examined the front page together as a class, we saw links to King's historical writings, pages about his dream and what he died for, and suggested books on King. Much of the language we saw on the homepage seemed respectful and objective, with phrases such as "Bring

the dream to life" or "Watch the new Martin Luther King educational video." Along the bottom of the homepage, a prominent graphical link composed of famous historical images of the civil rights era lead many students to believe this site part of the "Civil Rights Library," a reputable-sounding institution—but one that we made a note to investigate further. In many ways, this site seemed to pass our examination of initial markers.

Further investigation of the site, however, reveals a disturbing bias. As we looked at other pages, I modeled the process of using the questions to help me understand the author's intent and possible bias. When we followed the links to other pages of the site, it didn't take long to find inflammatory language and content that paints a one-sided and negative image of Martin Luther King Jr. We highlighted some of these words and phrases and talked about their explosive nature; my students felt that such language did not present a fair or objective discussion of the subject. Also, the link we followed to suggested reading lead us to a list of two books: one that discusses King's alleged plagiarism and a biography of David Duke. A quick Google search for David Duke revealed his association with the white supremacist movement in the United States. Again, in discussion the students raised the point that this list hardly represented a balanced view of King and his work.

Most telling, however, was what we found when we looked for more information about the authors of this site, as prompted by the questions I had set up. When I asked the students to look for a link to information about the author, they called my attention to the "Hosted by Stormfront" link along the bottom of the homepage. Following this link lead us to the main page of a discussion forum for the Stormfront group, which proclaims itself a "White Nationalist Community." Looking at the titles of some of the discussion topics on this forum was enough for students to raise serious questions about the intent of the authors of this site. (Since

**As fast as Internet searches may seem for those of us raised on the red-covered Readers' Guide to Periodical Literature, many students feel it takes too long to conduct additional searches to corroborate what they've read.**

these sites were blocked by our school district's filter, I had to save these pages for offline viewing and then present them by opening the saved pages in a Web browser on my classroom computer. I saved the pages from home using the browser's "Save Page As" command, which is accessible from the browser's "File" menu; I opened the saved pages on my school computer using the "Open File" command from the same menu and pointing the computer to the saved pages.)


### An Authentic Context for Practice

The extreme example of Stormfront's website provided a good model in detecting an author's bias and in examining how bias can cast doubt on the reliability of information. It became clear to me during our discussions that the students were starting to gain a greater appreciation of the need to evaluate while reading online. We were making progress. After modeling the strategies and practicing them together, I felt good about having students move toward independent practice. I wanted to be sure that this practice was done in an authentic context, though, so it made the most sense to practice with students' topics for their research on a specific challenge facing teens.

To begin their practice, students selected a challenge to research and generated two or three research questions about the challenge. By extracting important words from these questions, students came up with keywords to use with Internet search engines. I set aside a few class periods for work in the computer lab, giving them time to conduct their research in an environment where I could coach them and give individual feedback on how they were implementing the strategies we had discussed. It was during this practice that students learned the most as they wrestled with evaluating the validity of the pages they read through. At times things were messy: It wasn't always easy to categorically judge an author's intent, and some sites that held valuable information didn't always pass our review of the initial markers. However, this messiness reflects what truly happens when we look to the Internet as a source of information, and

I felt it was important for students to see this in the context of our guided practice. Even though things didn't always go off without a hitch in this practice, overall the students gained new appreciation for how to use these valuable skills.

To assess their implementation of the strategies, I asked students to write a brief defense for each of the sites they chose to use in the final product for this unit. When I read through these paragraphs, I was impressed with what they had done. Some decided to address the issue of evaluation by using only well-known and trusted websites. While this approach was not necessarily adventurous, it did show me that these students recognized the need for critical reading and that they made a conscious decision to stay in safer waters. Those students who did venture out into general Internet searches demonstrated an understanding of critical evaluation as they discussed their efforts to learn more about online authors they encountered as well as their efforts to corroborate information across multiple sites. As I reviewed the Internet sites students had used in their research, I was pleased to see the purposeful choices students had made and their growing awareness of the need to evaluate carefully what they read online.

If recent trends continue, it will not be long before most of us are gathering the information we use in daily life from online sources. From political commentary to product reviews to suggestions for raising children—with the speed and ease of access the Internet allows, its informational role in our lives is only bound to increase. This is especially true for our students, many of whom have spent much of their lives using the Internet and rely on it almost exclusively. If we hope to prepare them for a successful life outside the classroom, it is imperative that we help them learn to read critically as they use the Internet. 

### Works Cited

- Coiro, Julie. "Rethinking Comprehension Strategies to Better Prepare Students for Critically Evaluating Content on the Internet." *The NERA Journal* 39.2 (2003): 29–34.
- Coiro, Julie, and Elizabeth Dobler. "Exploring the Online Reading Comprehension Strategies Used by Sixth-Grade Skilled Readers to Search for and Locate Information on the Internet." *Reading Research Quarterly* 42 (2007): 214–57.

**If recent trends continue, it will not be long before most of us are gathering the information we use in daily life from online sources.**



Harris, Robert. "Evaluating Internet Research Sources." *Virtual Salt*. 15 Jun. 2007. 5 May 2008 <<http://www.virtualsalt.com/evalu8it.htm>>.

Howe, Walt. "Evaluating Quality." *Walt's Navigating the Net Forum*. 25 Apr. 2001. 5 May 2008 <<http://www.walthowe.com/navnet/quality.html>>.

Leu, Donald, et al. "What Is New about the New Literacies of Online Reading Comprehension?" *Secondary School Literacy: What Research Reveals for Classroom Practice*. Ed. Leslie S. Rush, A. Jonathan Eakle, and Allen Berger. Urbana: NCTE, 2007. 37–68.

**Jonathan Ostenson** has taught for over ten years at both the junior high and high school levels. He currently teaches in the English education department at Brigham Young University. Email him at [jon\\_ostenson@byu.edu](mailto:jon_ostenson@byu.edu).

---

## For My Students, Who Are Incarcerated

You taught me how to speak the language,  
read the environment,  
who could or would or would not work with whom,  
how to make pruno, a tattoo gun,  
to never leave my coffee cup unattended  
and always bend from the knees.  
Not the easiest lessons, sometimes, but I needed to know.

When I leave here tonight after the 5:30 class,  
I will go home, finish packing, and leave for graduate school.  
Like I always say, education is the most important thing in the world.

You know how I'm always at the board, teaching math, and going on about how  
there's more than one way to skin a cat,  
how half of the answer is knowing what the question is  
and that it's always the little things that catch us off guard?

Education is about life  
and how you think of yourself and  
how you treat people around you with care  
even when they don't do the same for you.  
That's integrity.

I learned that the first time in college, from a book.  
I learned it for real from you.

— Mindie Dieu  
© 2009 by Mindie Dieu

**Mindie Dieu** is a doctoral student in English education and teaches composition courses at the University of Oklahoma. She writes often about her experiences teaching Basic Skills, English as a Second Language, and General Education at a minimum security prison in Washington state.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.